

# Work Order ID 52540

September 30, 2009 8:01:33 AM



Page 1

Item ID: D206-667-103

Accept



Setup Start



Revision ID: C

Stop



Item Name: Crosstube Fwd

Start Date: 30/09/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 20/10/2009 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals:

Process Plan: *PL*

Date: *09-9-30*

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

Draw Nbr

Revision Nbr

D206-667-143

Rev C

100

0.00



DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy bluefile and create labels as per PPP D206-667-103 CHG004

*8021405*

*HJ fa BG 09/11/04*

110

0.00



Packaging

Packaging

Memo

0.00

Packaging

*9/11/14 Sep*

120

0.00



BENDING MACHINE - CROSSTUBES

CNC Bend 2

Memo

0.00

CNC Alpha 160 Bender

Bend tube as per Dwg D206-667-143 using CNC bender program 206B-fw and Folio FT

*(14)*

*2*

*MB 09-10-14*

**Work Order ID 52540**

September 30, 2009 8:01:33 AM



Page 2

Item ID: D206-667-103

Accept



Setup Start



Revision ID: C

Stop



Item Name: Crosstube Fwd

Start Date: 30/09/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 20/10/2009 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

130

QC15- Crosstube Dimensional Check

0.00



QC

Memo

0.00

Quality Control

1

09-10-14

140

Crosstubes

0.00



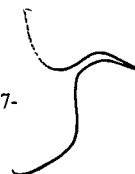
Crosstubes

Memo

0.00

Crosstubes

1-Drill holes & ream using drill Jig DT8541 & DT8542 as per Dwg D206-667-143. Drill all (3) top holes. □3-Flip tube and switch drilling Jigs from right to left, left to right. Locate Jigs off existing holes using "T" pins. □4-Drill pilot holes using dr



1x

2

MB 09-10-15.

150

Crosstubes Chemical Conversion

0.00



HandFXtube

Memo

0.00

Hand Finishing Crosstubes

1x

2

MB 09-10-15

# Work Order ID 52540

September 30, 2009 8:01:33 AM



Page 3

Item ID: D206-667-103

Accept



Setup Start



Revision ID: C

Stop



Item Name: Crosstube Fwd

Start Date: 30/09/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 20/10/2009 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

160

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

27 S 09/10/20

(X)

φ

Quality Control

170

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

27 S 09/10/20

(X)

φ

Quality Control

180

Outsource process - NDT per QSI038 4.1

0.00



Outsource2

Memo

0.00

Outsource process - NDT

CROSSTUBES

PO# 10655  
BS 09-10-28  
CL  
X(1)

**Work Order ID 52540**

September 30, 2009 8:01:33 AM



Page 4

Item ID: D206-667-103

Accept



Setup Start



Revision ID: C

Stop



Item Name: Crosstube Fwd

Start Date: 30/09/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 20/10/2009 Req'd Qty: 1.00



Customer:

## Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

190

0.00



Packaging

Packaging

Memo

0.00

Packaging

Ensure copy of NDT results attached to work order.

09/10/29 C

200

0.00



QC5- Inspect part completeness to step on W/O

QC

Memo

0.00

Quality Control

09 10 29 ①

210

0.00



SprayPaint

SprayPaint

Memo

0.00

Spray Painting

1-Prime inside and outside crosstube as per QSI 005 4.2 □ 2-Paint outside  
crosstube with White Imron as per QSI 005 4.2 □ PRIME: □ Start  
Time: 9:30 □ Finish Time: 10:00 □ PAINT: □ Start  
Time: 2:30 □ Finish Time: 3:30

09 10 02 ①

# Work Order ID 52540

September 30, 2009 8:01:33 AM



Page 5

Item ID: D206-667-103

Accept



Setup Start



Revision ID: C

Stop



Item Name: Crosstube Fwd

Start Date: 30/09/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 20/10/2009 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

220 QC14- Inspect Spray Paint

0.00



25 09 11 03

QC

Memo

0.00

Quality Control

Wrap in plastic bag to protect from scratches

230

0.00



Crosstubes

ml 09 11 03 (1)

Crosstubes

Rubber Cushion  
D3595-063-395  
B# 44667

Memo

0.00

1-Install support using 0.03" to 0.06" thick layer of magnobond 6398 per QSI 015. Let cure for 12h after installation and prior to packaging. Note (2) All holes should be facing up. ☐ A/R Magnobond 6398 : 112417 exp 10/2011

25 09 11 03

240

QC5- Inspect part completeness to step on W/O

0.00



2) Seal/lock

(1) 6

QC

Memo

0.00

Quality Control

# Work Order ID 52540

September 30, 2009 8:01:33 AM



Page 6

Item ID: D206-667-103

Accept



Setup Start



Revision ID: C

Stop



Item Name: Crosstube Fwd

Start Date: 30/09/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 20/10/2009 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
250 	Pick Kit	0.00							
Packaging	Memo	0.00							
Packaging									
260 	QC4- 100% Inspect kits for completeness	0.00							
QC	Memo	0.00							
Quality Control									
270 	Packaging	0.00							
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP D206-667-103								
	Location: _____								
	PPP Rev: _____								

9/11/4 sf

> Serulos

Ⓢ

9/11/5 sf

**Work Order ID 52540**

September 30, 2009 8:01:33 AM



Page 7

Item ID: D206-667-103

Accept



Setup Start



Revision ID: C

Stop



Item Name: Crosstube Fwd

Start Date: 30/09/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 20/10/2009 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals:

Process Plan: \_\_\_\_\_

Date: \_\_\_\_\_

Tooling: \_\_\_\_\_

Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_

Date: \_\_\_\_\_

SPC (Y/N): \_\_\_\_\_

Date: \_\_\_\_\_

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run HoursDraw  
NumberDraw  
Rev.Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

280

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

09/11/05 *[Signature]*  
Bl 09-11-5

# Picklist Print

September 30, 2009 8:01:32 AM

Page 1

Work Order ID: 52540

Parent Item: D206-667-103RevC

Parent Item Name: Crosstube Fwd

Comments:


Start Date: 30/09/2009

Required Date: 20/10/2009

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	--------------------------	---------------	----------------	--------

AN970-4  Washer		Purchased	No			100	Each	89.0000	12.0000			
--	--	-----------	----	--	--	-----	------	---------	---------	--	--	--

M112933

*[Signature]*

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST

89

104885

3

107242

3

107715

1

108077

2

108377

19

111724

3

112082

8

112794

50

D206-667-  
103TRNRevC

Manufactured No

230

Each

2.0000

1.0000

B-52623 ✓

~~B-52623~~

MS-09-10-14

Crosstube Turning DetailL

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

FG

2

48461

1

48463

1



# Picklist Print

Page 2

September 30, 2009 8:01:32 AM

Work Order ID: 52540

Parent Item: D206-667-103RevC

Parent Item Name: Crosstube Fwd

Comments:

Start Date: 30/09/2009

Required Date: 20/10/2009

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	--------------------------	---------------	----------------	--------

D2873-043RevA      Manufactured      No



Nut Plate Assembly

230

Each

53.0000

2.0000



Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

53

45370

18

45422

15

50002

20

ml 09.11-03

D2873-045RevA      Manufactured      No



Nut Plate Assembly

230

Each

71.0000

2.0000



Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

71

45210

11

46772

20

50001

40

ml 09.11.03

September 30, 2009 8:01:32 AM

Shop Packet Print

Page 2

# Picklist Print

Page 3

September 30, 2009 8:01:32 AM

Work Order ID: 52540



Parent Item: D206-667-103RevC



Parent Item Name: Crosstube Fwd

Start Date: 30/09/2009

Required Date: 20/10/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D2891-1RevA1		Manufactured	No			230	Each	81.0000	2.0000			

2.25 Support

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	81	
40336	1	
<u>41198</u>	16	
43880	20	
45935	4	
46159	20	
50952	20	

mt 09.11.03

MS21920-20

Purchased

No

230

Each

167.3000

4.0000



Clamp (per MIL-DTL-8783C)

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	167.3	
103478	2	
106484	12	
109269	9.3	
110536	10	
<u>111281</u>	34	
112307	50	
112624	39	
112793	11	

mt 09.11.03

September 30, 2009 8:01:32 AM

Shop Packet Print

Page 3

# Picklist Print

Page 4

September 30, 2009 8:01:32 AM

Work Order ID: 52540

Parent Item: D206-667-103RevC

Parent Item Name: Crosstube Fwd



Start Date: 30/09/2009

Required Date: 20/10/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
AN5-30A  BOLT		Purchased	No			260	Each	85.0000	4.0000		9/11/4 SP	

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	85	

AN5-32A



Bolt

Purchased

No

~~110467~~

260

Each

79.0000

4.0000



4x 50

9/11/4 SP

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	79	
106242	3	
106519	4	
110363	17	
111916	5	
<del>112082</del>	50	

4x 50

September 30, 2009 8:01:32 AM

Shop Packet Print

Page 4

# Picklist Print

Page 5

September 30, 2009 8:01:32 AM

Work Order ID: 52540



Parent Item: D206-667-103RevC



Parent Item Name: Crosstube Fwd



Start Date: 30/09/2009

Required Date: 20/10/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
AN5-7A  Bolt		Purchased	No			260	Each	81.0000	10.0000 		9/10/21 SP	

## Warehouse

## Loc Qty

## Loc Code

### Location

Main Warehouse

ST

81

110625

7

111668

24

112612

50

10x50

# Picklist Print

Page 6

September 30, 2009 8:01:32 AM

Work Order ID: 52540



Parent Item: D206-667-103RevC



Parent Item Name: Crosstube Fwd


Start Date: 30/09/2009

Required Date: 20/10/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
AN960JD516  Washer		Purchased	No			260	Each	1,422.000	18.0000			

9/14/4 SP (12)

Warehouse	Loc Qty	Loc Code
Location		
Main Warehouse		
ST	1422	
100564	2	
106167	6	
107534	34	
107959	43	
108246	46	
108672	2	
109059	49	
109752	22	
110363	46	
110523	57	
111279	44	
112082	71	
112314	500	
112794	500	

18xSP

# Picklist Print

Page 7

September 30, 2009 8:01:32 AM

Work Order ID: 52540

Parent Item: D206-667-103RevC

Parent Item Name: Crosstube Fwd


Comments:

Start Date: 30/09/2009

Required Date: 20/10/2009

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
MS20601-AD4W8		Purchased	No			260	Each	328.0000	14.0000			
												
RIVET												

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	328	
108521	100	
110399	28	
112203	200	

not 09 11 03

MS21042L5

Purchased

No

260

Each

1,214.000 4.0000



Nut

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	1214	
110382	10	
111127	4	
111636	200	
112314	1000	

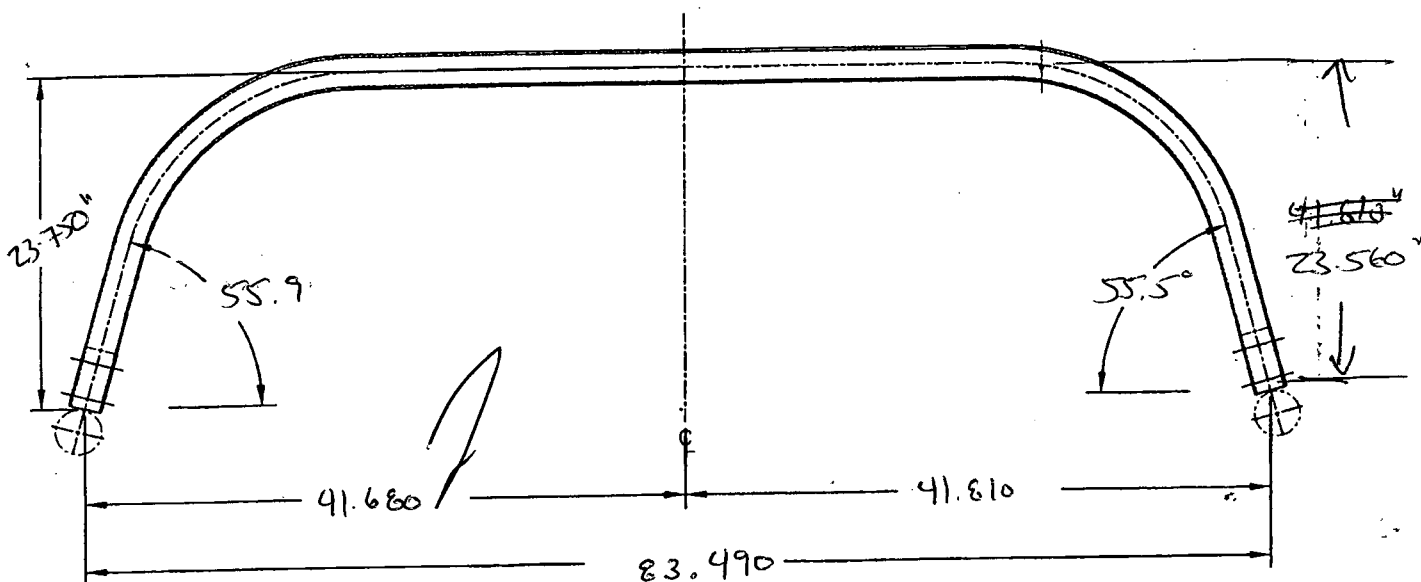
9/11/4 sp

4x Sp

DART AEROSPACE LTD		Work Order:	52540
Description: Crosstube High Fwd (206L)		Part Number:	D206-667-103
Inspection Dwg: D206-667-143 Rev: C		Page 1 of 1	

23.39 05.10.05

Required Dimension	Min	Max
Height	39.00	23.65
1/2 Span	41.79	42.05
Angle	54	56
Total Span	83.58	84.10



Comments
Fits well in the jig as well

QC15 Inspection	05.10.14
Date	

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	09.06.26	Dimensions updated per Dwg Rev C	KJ	

Item	Qty -143	Part Number	Description
1	X	D206-667-143	CROSSTUBE ASSEMBLY (206L HIGH FWD)
2	1	D6002-115	CROSSTUBE
3	2	D2873-043	NUT PLATE
4	2	D2873-045	NUT PLATE
5	2	D2891-1	SUPPORT
6	4	D3595-063-395	RUBBER CUSHION
7	4	MS21920-20	CLAMP (OR MS21920-21)
8	14	MS20601AD4W8	RIVET (OR NAS9302B-4-8)
9	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

#### GENERAL NOTES:

- MATERIAL: MANUFACTURED FROM D6002-115  
FINISHED LENGTH = 104.98±0.020
- FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
PAINT OUTSIDE PER DART QSI 005 4.2
- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- UNITS: INCHES UNLESS OTHERWISE NOTED.
- BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- IDENTIFICATION: SCRIBE DART PART NUMBER 'D206-667-143' AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS.
- WEIGHT: 15.5 lbs
- PART IS SYMMETRIC ABOUT CENTERLINE.
- RUN CUTTER OFF PART WHERE INDICATED. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
- BEND PROGRESSIVELY WITH A MINIMUM OF 10 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- INSTALL D2891-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- INSTALL MS21920-20 CLAMPS (OR -21) WITH D3595-063-395 RUBBER CUSHIONS TO SECURE THE D2891-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMP MECHANISMS ARE LOCATED ON CROSSTUBE SUPPORTS.
- EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS ARE SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 525410

*AP 09-9-30*

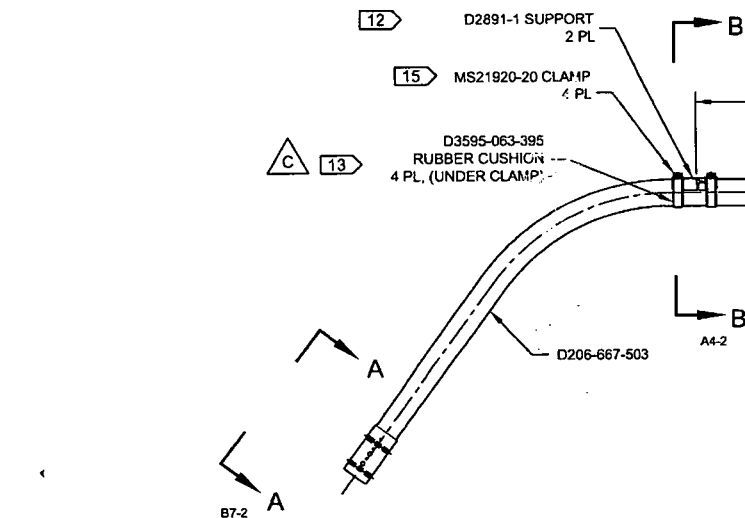
RELEASED  
*08/11/06*

C	REVISE GENERAL NOTES/PART LIST (ZN 07-1); REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS. D3595-063-395 WAS D2856-400-694 (ZN D6-2 & A5-2); REMOVED REF. & ADD TOLERANCE (ZN D3-3, C4-3, C5-3); RELOCATED FLAG #6 (ZN A8-3) PER NCR 210; MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4.	RF	08.11.06
B	ADD HOLES AND NUT PLATES FOR COMPATABILITY WITH BHT/AA SKUDTUBES	PH	05.07.26
A	NEW ISSUE	CP	00.11.17
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN	RF		
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	08.11.06		

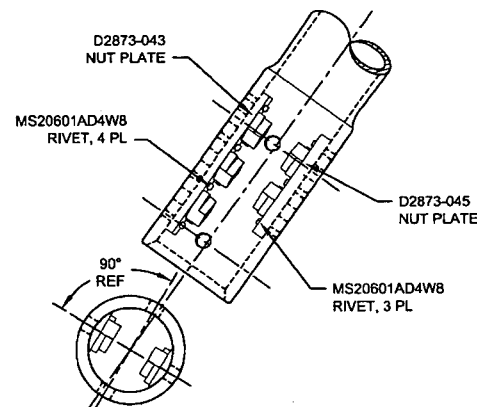
<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWING NO. D206-667-143	REV. C SHEET 1 OF 4
TITLE CROSSTUBE ASS'Y (206L HIGH FWD)	SCALE NTS
COPYRIGHT © 2000 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE LOANED FOR ANY PURPOSE OR COPIED OR DISSEMINATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



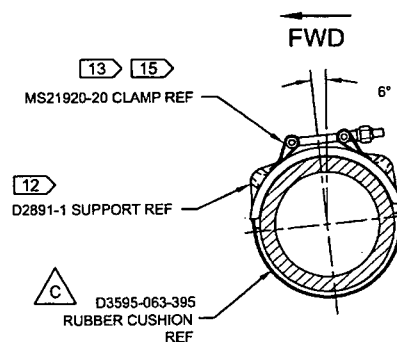
SHOP COPY  
 RETURN TO  
 ENGINEERING  
 UNCONTROLLED COPY  
 SUBJECT TO AMENDMENT  
 WITHOUT NOTICE  
 WORK ORDER  
 NO. 525410



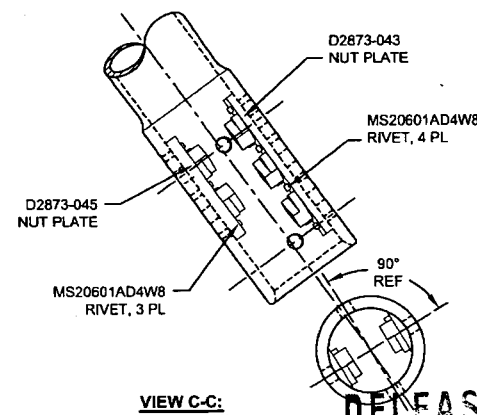
**D206-667-143**  
**ASSEMBLY DETAIL**  
 (VIEW LOOKING FWD)



**VIEW A-A:**  
**CUFF DETAIL**  
 SCALE 4X



**SECTION B-B**  
 SCALE 5X



**VIEW C-C:**  
**CUFF DETAIL**  
 SCALE 4X

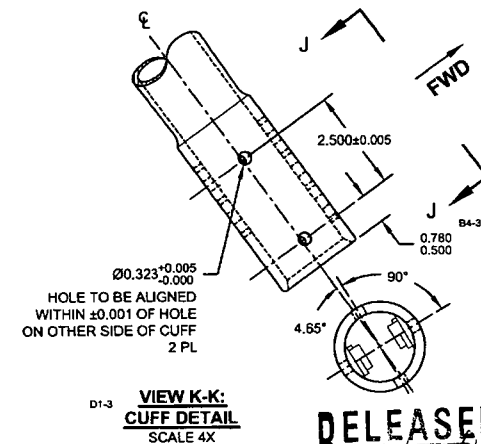
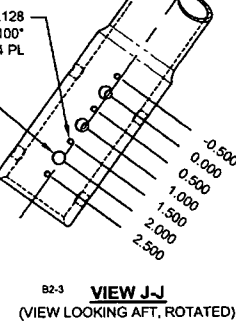
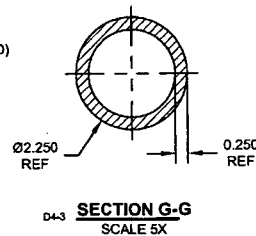
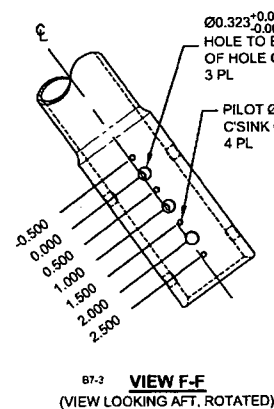
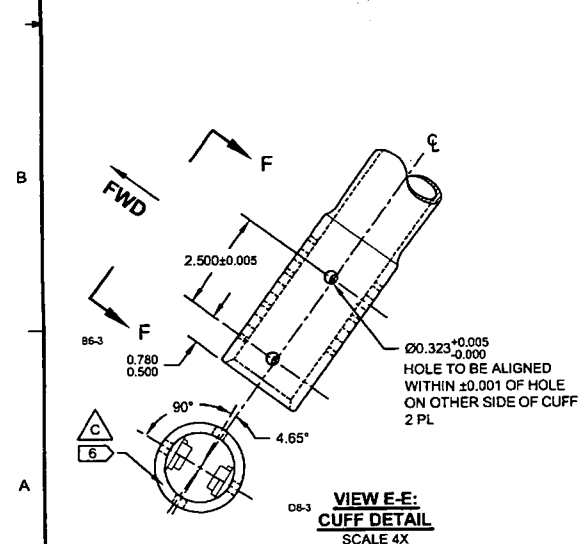
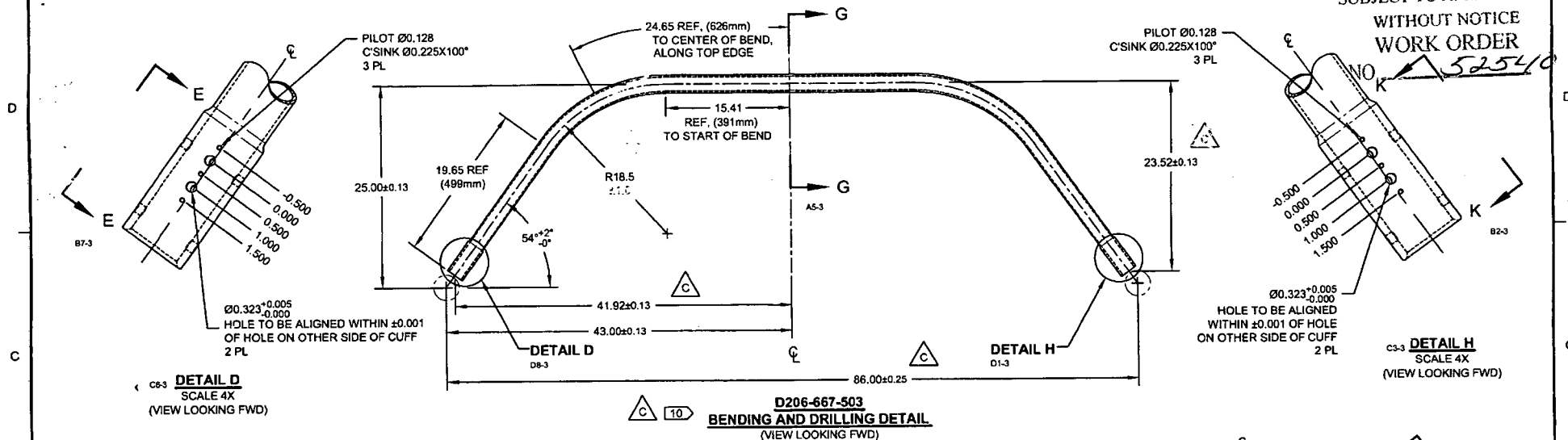
RELEASED  
 08/11/12

DESIGN	40	<b>DART AEROSPACE LTD</b>	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	40	DRAWING NO.	REV. C
MFG. APPR.	40	D206-667-143	SHEET 2 OF 4
APPROVED	40	TITLE	SCALE
DE APPR.	40	CROSSTUBE ASS'Y (206L HIGH FWD)	NTS
DATE	08.11.06	COPYRIGHT © 2005 BY DART AEROSPACE LTD	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.			

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT

WITHOUT NOTICE  
WORK ORDER

52540



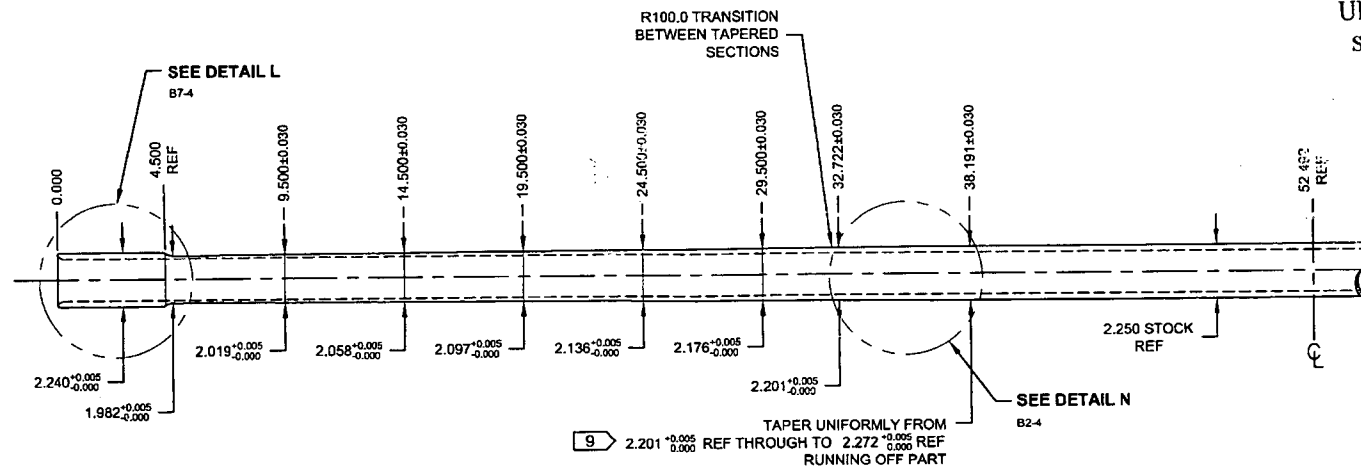
DESIGN	9	<b>DART AEROSPACE LTD</b>	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	CP	DRAWING NO.	REV. C
MFG. APPR.	EP	D206-667-143	SHEET 3 OF 4
APPROVED	HP	TITLE	SCALE
DE APPR.	HP	CROSSTUBE ASS'Y (206L HIGH FWD)	NTS
DATE	08.11.06	COPYRIGHT © 2000 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

RELEASED  
08/11/06

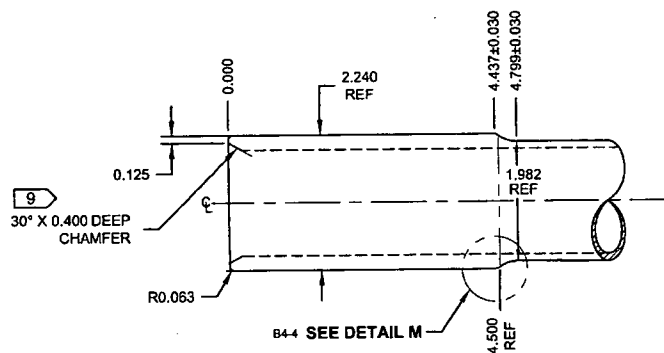
SHOP COPY

RETURN TO

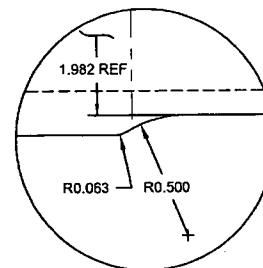
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 52340



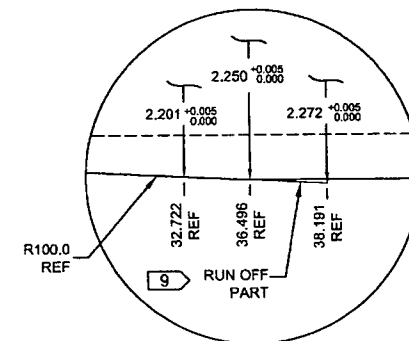
**TURNING DETAIL**



**DETAIL L:  
CROSSTUBE CUFF**  
D7-4 NOT TO SCALE



**DETAIL M:  
CUFF TRANSITION**  
A6-4 NOT TO SCALE



**DETAIL N:  
TAPER RUN-OFF**  
C4-4 NOT TO SCALE

**RELEASED**  
08/11/06

DESIGN	9	<b>DART AEROSPACE LTD</b>	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	9	DRAWING NO.	REV. C
MFG. APPR.	9	D206-667-143	SHEET 4 OF 4
APPROVED	9	TITLE	SCALE
DE APPR.	9	CROSSTUBE ASS'Y (206L HIGH FWD)	NTS
DATE	08.11.06	COPYRIGHT © 2000 BY DART AEROSPACE LTD	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.			



## LIQUID PENETRANT TEST REPORT

P- 15030

PAGE 1 OF 1

ION Dart Aerospace DATE Oct 28<sup>th</sup> 09 TIME AM ☐ PM ☐  
SS Linda Lacelle ACUREN JOB NO. 188-09-1626  
1270 Aberdeen St. PO/WO No. 10655  
Hawkesbury WORK LOCATION Hawkesbury  
ACCEPTANCE STD. ASTM 1417/02i-03e REV./DATE 2005  
IT X-Tubes D212-664-201, D212-664-107, D212-664-101 - D206-667-103  
EXAMINED Sob #'s 51068, 51069, 52218, 52454, 52455, 52456, 52539, 52540

DESCRIPTION PROCEDURE No. LT-000 REV./DATE LT-000 TECHNIQUE No. LT-000 REV./DATE LT-000  
O. D212-664-201, D212-664-107, D212-664-101 MATERIAL ALUMINUM THICKNESS 0.005  
WET FLOUORESCENT LIQUID PENETRANT INSPECTION CARRIED OUT  
ON 100% EXTERNAL SURFACE

DETAILS  
☒ FLUORESCENT ☐ VISIBLE ☒ WATER WASH ☐ SOLVENT REMOVABLE ☐ POST EMULSIFIED  
BRAND MAGNAFLUX BLACK LIGHT S/N 8178 ☒ OUTPUT > 1000  $\mu$  W/cm<sup>2</sup> ☐ AMBIENT < 2 fc  
SANT ZL67 MINIMUM DWELL TIME 45 MIN. LIGHTING EQUIP. ☒ FLASHLIGHT ☐ TROUBLELIGHT ☐ OUTPUT > 100 fc @ SURFACE  
SANT REMOVER H<sub>2</sub>O MINIMUM DRY TIME >10 MIN. OTHER CAL JUNE 09  
OPER SKDS2 MINIMUM DWELL TIME 10 MIN. LIGHT METER S/N                      CAL DUE DATE DEC 09  
OPER TYPE ☒ NON AQUEOUS ☐ AQUEOUS ☐ DRY

SURFACE  
PRE CONDITION ☐ AS GROUND ☐ AS WELDED ☒ MACHINED ☐ SHOT BLASTED ☒ CLEAN BARE METAL  
PRE TEMPERATURE ☐ < -4°C/ 20°F ☐ -4°C/ 20°F TO 10°C/50°F ☒ 10°C/50°F TO 52°C/125°F ☐ > 52°C/125°F  
-TS- ☐ METRIC ☐ IMPERIAL

WET FLOUORESCENT LIQUID  
PENETRANT INSPECTION  
CARRIED OUT ON 100%  
EXTERNAL SURFACE ON X-TUBES  
(52540: ACCEPTABLE)  
Sob #'s 51068: ACCEPTABLE  
51069: ACCEPTABLE  
52218: ACCEPTABLE  
52454: ACCEPTABLE  
52455: ACCEPTABLE  
52456: ACCEPTABLE  
52539: ACCEPTABLE

nm 09 10 29

services  
Acuren Group Inc. to perform services extends only to those services provided for in writing. Under no circumstances shall such services extend beyond the performance of the requested services. It is expressly understood that the descriptions, comments and expressions of opinion reflect the opinions or observations of Acuren Group Inc. based on information and assumptions supplied by the owner/operator and are not intended nor can they be construed as warranties. Acuren Group Inc. is not assuming any responsibilities of the owner/operator and the owner/operator retains complete responsibility for the engineering, manufacture, repair and use decisions as a result of the services provided by Acuren Group Inc. In no event shall Acuren Group Inc.'s liability in respect of the services referred to herein exceed the amount paid for such services.  
of Care  
In performing the services provided, Acuren Group Inc. uses the degree, care and skill ordinarily exercised under similar circumstances by others performing such services in the same or similar locality. No other warranty, expressed or implied, is made or intended by Acuren Group Inc.

TURES  
REPRESENTATIVE Chantal Lavoie Michael Lavoie DTR # E-27155  
ICIAN (SIGNATURE):                      SIGNATURE                       
REPORT  
(PRINT): FREDERICK CHAGNON REVIEWED BY:                       
NAME                      INITIALS                       
1<sup>st</sup> TECHNICIAN 2<sup>nd</sup> TECHNICIAN  
CGSB LEVEL II SNT LEVEL II CGSB LEVEL              SNT LEVEL               
CGSB REG. No 10560 CGSB REG. No